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May 17, 2007

Annette Duerock

Panhandle Health
8500 N Atlas
Hayden, ID 83835

Subject: Development Focus Group 1 – Additional Comments

Dear Annette:

In my opinion, the critical issues and questions to be considered are as follows:

1. What constitutes an onsite wastewater disposal system failure in Idaho? According to our own wastewater code, IDAPA 58.01.03.003.13 a, b, & c, failing system is defined as: Any system which exhibits one (1) or more of the following characteristics:
    a. The system does not meet the intent of the rules as stated in Subsection 004.01*.
    b. The system fails to accept blackwaste and wastewater.
    c. The system discharges blackwaste or wastewater into the waters of the State or onto the ground.

    *Subsection 004.1 of IDAPA 58.01.03 outlines the **Intent of the Rules** as: The Board, in order to protect the health, safety, and environment of the people of the state of Idaho established these rules governing the design, construction, siting and abandonment of individual and subsurface sewage disposal systems. These rules are intended to insure that blackwastes and wastewater generated in the state of Idaho are safely contained and treated and the blackwaste and wastewater contained in or discharged form each system:
    a. Are not accessible in insects, rodents, or other wild or domestic animals;
    b. Are not accessible to individuals;
    c. Do not give rise to a public nuisance due to odor or unsightly appearance;
    d. Do not injure or interfere with existing or potential beneficial uses of the waters of the State.

    So, in summary, I see two obvious failure circumstances:
    1. Failure of the wastewater treatment and disposal system whereby potentially harmful waste migrates from below the surface of the soil to the surface of the soil.
    2. Migration of untreated wastewater to waters of the state. Waters of the state should be assumed to include surface and ground water resources.
2. So with that in mind, the question has been asked, "How many systems have failed under the current rules? If not many, why are we considering a change to the flow determination criteria?" How is a failure determined? This ties directly into the definition of failure as outlined above. Some of the actual circumstances under which failures occur are discussed below:

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a. A failure such as the ones outlined in "a" and "b" above, the problem is often identified by the homeowner or adjacent property owner if within reasonable proximity. On larger properties, drainfield areas are located in remote and unfrequented areas. For this reason, some failures could go years without detection. If discovered, would the homeowner report the problem to DEQ or the Health District? Some would and some would not. In some cases, it could be argued that the fee levied for the repair permit would also motivate homeowners to deal with problems without Health District help. Many Idaho citizens fear the reprisal of state governed agencies and, for that reason, the homeowner may consider fixing the problem outside the scope of Idaho code. The point is, a small fraction of failures are reported to the Health Districts of Idaho, but many go unreported, undetected, and undocumented, therefore a report created by the Health Departments of documented surface failures may represent a very small number of the actual surface failures occurring in Idaho, and would therefore dramatically understate the problem.
b. As in condition "c", the negative impact of failing on-site systems on surface and groundwater sources are nearly impossible to pinpoint and link to any one specific system or number of system failures. Idaho's water resources have already been impacted by a number of polluting sources including: boat discharge, grandfathered septic systems, leaky septic tanks, improperly installed and maintained septic systems, and failing drainfields to name a few. This type of failure may not manifest at the surface or backup into the home, but could quickly migrate below the soil's surface to ground and surface water sources whereby making a study of this issue an extremely difficult one to implement. The current code doesn't sufficiently take into account the soil's role in treating wastewater and often limits the designer or installer's ability to make the best use of each drainfield site.

Therefore failures are nearly impossible to determine accurately. What do actual failures have to do with flows? Increasing the drainfield size to handle higher flows, and controlling the rate at which wastewater enters the soil would reduce the number of detected and undetected failed systems. By starting with higher flows, we would better prepare the treatment system and disposal area to effectively, and consistently accept and improve the quality of the waste discharge that reaches our important water resources. Improvements on deep-set drainfields, surge dosing, undersized disposal areas, undersized settling (septic) and treatment tanks, and installer and designer education would also continue to improve the effectiveness of on-site systems to protect water resources and public health. The ongoing impact of Idaho's on-site systems on our lakes, streams and aquifers could be dramatically reduced or eliminated with some common sense and consideration of the soils role in this important process. The proposal to change or update the criteria used to calculate flows in the Panhandle Health District is one step in a series of steps necessary to correct this growing problem, but extensive study of this problem may only result in an outpouring of costs better directed at the problem itself, not an invalid measurement of the symptoms.

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3. How different soil types accept, treat and transport wastewater to an area of concern like surface water or underground drinking water sources. How can we optimize the natural process to best take advantage of the limited soil resources available? Under the current guidance and code, designers and installers are shackled with antiquated technology and techniques for implementing wastewater disposal systems. Due to the lack of motivated initiative at a state level, our rules remain out of date, ineffective, and just plan irresponsible with respect to modern wastewater disposal problems. Should we consider larger dosing tanks, timed dosing to the drainfield (which would hold up and meter out the wastewater flows the home over a longer duration, whereby reducing the likelihood of over saturating the field and effectively driving the untreated wastewater to areas of concern)? The current rules provide little consideration of improved technologies and techniques proven to optimize the treatment and disposal process and, in many cases, could contribute to the elimination of septic failures altogether. A perfect example of poor decision making is our current Rathdrum Prairie Aquifer Policy. Under this policy, a land owner can build a home with an on-site disposal system if built on 5 acres or more over the aquifer. Most people don't realize the wastewater disposal system mandated by the State, inspected and approved by the Health District are little better than an injection well which, in some cases, transports the wastewater directly down our drinking source. With an improvement is treatment, drainfield dosing, field design and installation techniques, the impact on the aquifer and allowable lot sizes could both be reduced in this situation. These same principles could apply to other recharge and watershed areas as well…if considered and allowed.
4. How we calculate flows. 300 GPD is just much too low for any modern, 4 bedroom single family dwelling. Based on average flow data presented across the country, between 50 and 80 gallons per day is sent to the septic system by each person living in the home ON AVERAGE. This figure does not account for peaking flows, and if the typical "Idaho" system receives wastewater from a flow event outside the norm, the systems have no way to deal with it effectively and efficiently. What goes in must go out in most cases. Unfortunately, many of the homes built in the Idaho Panhandle are not typical. Many have multi-jet showers, larger bath tubs, high flow fixtures etc. How does this change the flow dynamic? That depends…it depends on the number of occupants, their utilization of the high flow fixtures, and how many parties or events held at the home on an annual basis. The point is, there is no way to predict flows from a home of this magnitude. The designer is forced to plan for the worst case scenario, which to the correct course of action…within reason. We should consider increasing the size of the tanks and drainfield to accommodate the potential and increasing flows is one way to accomplish this.
5. The clear answer is <u>not</u> a transition to community systems. The USEPA recognized that fact in their "Onsite Wastewater Treatment Systems Manual" published in February, 2002 where it states, "Public health and environmental protection officials now acknowledge that onsite systems are not just temporary installations that will be replaced eventually by centralized treatment services, but permanent approaches to treating wastewater for release and reuse in the environment. Onsite systems are

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recognized as potentially viable, low-cost, long-term, decentralized approaches to wastewater treatment if they are planned, designed, installed, operated, and maintained properly." In many outlying areas of Idaho, centralized systems are not a practical or efficient solution.

In conclusion, the scope of the problem will be nearly impossible to determine accurately. We have seen the quality of our lakes and aquifers decline as population increases and I think we can therefore reasonable assume failing onsite system are one contributing factor. I feel that the current criteria for calculating flows are in need of an update, but this is jut one small piece of the puzzle. An ongoing examination of current wastewater science should lead to better ways to attack the problems presented. In many cases, the solutions are right in front of our faces, but the current regulations forbid their use. Finally, we are all aware that these systems are not going away, but by increasing the concentration of dated technology and practices over and near our once pristine water resources will eventually bring us to a point of no return.

Sincerely,

Allen Worst